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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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24998	7590	09/09/2005	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 2101 L Street, NW Washington, DC 20037			LAROSE, COLIN M	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/974,898	MIICHI ET AL.
	Examiner Colin M. LaRose	Art Unit 2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 May 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2 and 17-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2 and 17-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 May 2005 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Arguments and Amendments

1. Applicant's amendments and arguments filed 2 May 2005, have been entered and made of record.

Drawings

2. The corrected drawings were received. These drawings are accepted.

Specification

3. The changes to the Title, Abstract, and Specification are accepted.

Claim Rejections - 35 USC § 112

4. Applicant's amendments to the Claims and the Specification are sufficient to overcome the previous rejections under 35 USC § 112, 1st & 2nd paragraphs.

Response to Amendments and Arguments

5. Applicant's amendments to claim 1 are sufficient to overcome the cited prior art. However, the claim suffers from 35 USC § 112 problems, as cited below. If the rejections under 35 USC § 112 overcome, the claim be will allowed.

6. Regarding claim 2, Applicant argues (see p. 13 of Remarks) that "Seeley does not disclose checking images when 'a check start button' is pressed." Examiner agrees with this assertion. However, the claim merely calls for "detecting a press of a check start button," and

nothing more. There is no explicit nexus between detecting the press of the button and the checking process.

7. Also regarding claim 2, Applicant argues (see p. 13 of Remarks) that Seeley does not disclose repeating a comparison if there is no match, as claimed. Examiner agrees with this assertion. Seeley is comparing images until there is not a match, instead of until there is a match, as claimed. That is, Seeley's system compares images to find a mis-match between frames that is suggestive of an intruder. For this reason, the rejection of claim 2 in view of Seeley has been withdrawn.

8. Regarding claims 2 and 17, Applicant asserts (see pp. 13-15 of Remarks) that the combination of Burt and Kuwano does not disclose the use of the claimed "check start button." In the previous action, Burt was said not to disclose a check start button, and Kuwano was relied upon to cure such a deficiency. In the present remarks, Applicant seems to argue against each reference separately on this limitation and appears merely to allege that Kuwano "fails to teach or suggest" the check start button without providing reasoning or analysis as to why. Since Applicant has not persuasively argued that the proposed combination of Burt and Kuwano is improper, the previous rejection of claims 2 and 17 in view of the combination Burt and Kuwano is maintained.

9. Also regarding claims 2 and 17, Applicant asserts (see pp. 13-15 of Remarks) that Burt does not disclose a "comparison system" that conducts "a second comparison ... if the first comparison indicates there is no match." Examiner respectfully disagrees. Burt captures a series of video frames and appears to compare each of those successive frames to stored templates until

a match is found – e.g. in the Abstract, a “time series of successive high-resolution frames … is examined in order to recognize the identity of a specific member … in the time series.” This suggests that a given frame of video is examined for a match; if there is no match, then a successive frame is examined to ascertain if the successive frame contains a match. For this reason, Burt is believed to teach repeating the comparison on additional acquired images when there is no match.

Claim Objections

10. Claim 2 is objected to because of the following informalities: The claim reads: “capturing a plurality of acquired images of the object object.” Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1, 2, and 17-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claim 1 recites the limitation "at least one check image". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction of this and dependent claims with the corresponding problems, if any, is required.

14. Claim 2 recites the limitation "at least one acquired image," which presumably refers to "a plurality of images." Suggested correction is to change "at least one acquired image" to -- at least one of the plurality of acquired images -- so that the claim language is consistent. Appropriate correction of this and dependent claims with the corresponding problems, if any, is required.

15. Claim 17 recites the limitation "registration image". There is insufficient antecedent basis for this limitation in the claim. It appears that "registration image" refers to the "photographic images previously stored," but it is not clear. Appropriate correction of this and dependent claims with the corresponding problems, if any, is required.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 2 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt, in view of Kuwano et al. (U.S. Patent Application Publication 2002/0015094).

The following is in regard to Claims 2 and 17. Burt discloses an image comparison method/apparatus (Burt, Fig. 1) in which:

(1.a.) A plurality of images of a "photograph object" are acquired by using

photograph means (e.g. imager means **100** – Burt, Fig. 1)

- (1.b₁) The acquired images are compared (see, for example, Burt column 14, lines 51-59) with information concerning previously memorized registration images (e.g. templates - Burt Fig. 4, reference number **118a**).
- (1.c) A comparison result is outputted. Notice the output of *object recognition means* **114** in Burt Fig. 1.

The output indicates whether the acquired image of interest matches any of the registration images – e.g. whether a particular person is recognized.

When the output indicates that a person or the like is not recognized in the acquired image, then another acquired image is compared with the registration images until a match is found. The video imager 100 detects a series of images, which are successively examined to determine when a person or the like is recognized.

The method includes:

- (1.d₁) Acquiring a plurality of images of the photograph object during a predefined period of time. See, for example, Burt *Summary of Invention*, paragraph 1 and column 16, lines 56-59.
- (1.e₁) At least one of the plurality of acquired images is compared with the information concerning the previously memorized registration image (e.g. Burt column 14, lines 51-59), and comparisons are repeated for a video sequence at least until finding a match.

Burt, however, does not expressly show or suggest:

(1.f) detecting existence of the photograph object to be checked.

Nor does Burt show or suggest: detecting a press of a check start button.

Kuwano et al. disclose a system for monitoring and recording the movement of a subject entering a designated area (Kuwano et al. Abstract). The system includes:

(1.f) An object detection sensor for detecting existence of the photograph object (e.g. *motion vector detecting circuit 42* shown in Kuwano et al. Fig. 1).

Furthermore, in the system of Kuwano et al.:

(1.d₂) A photograph means (e.g. video camera 1 shown if Kuwano et al. Fig. 1) acquires a plurality of images of a subject (i.e. the photograph object) from the time the subject has been detected by the detecting sensor (e.g. step 52 of Kuwano et al. Fig. 11) to the time a *recording stop command* is issued (e.g. steps 59-61 of Kuwano et al. Fig. 11). See, for example, Kuwano et al. Figs. 8 and 11-12. This command is entered from an *operating unit* (e.g. operating unit 225 of Kuwano et al. Fig. 10). Though not explicitly mentioned by Kuwano et al., it should be understood that such a command could be implemented on an operating unit as a button (e.g. a “check confirmation button”).

Notice that, when the recording ceases after the issuance of the recording stop command, a collection of recorded images (see Kuwano et al., column 3, paragraph [0068]) is available to the operator (e.g. a supervisor) so that he/she may “check the customer” (e.g. Kuwano et al. column

4, paragraph [0085], last sentence) or, in other words, authenticate the customer's identity. In this manner, the system of Kuwano et al. implicitly involves:

(1.e₂) An operator, such as a supervisor, *manually* comparing at least one of the plurality of acquired images (i.e. those obtained according to (1.d₂) and recorded in a recording device – e.g. *digital recording device 204* of Kuwano et al. Fig. 10), when the recording stop command is issued or a corresponding button (see above) is pressed.

Burt suggests that his image comparison apparatus is applicable to systems such as that of Kuwano et al. (Burt column 16, lines 15-30). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the Applicant's claimed invention to incorporate the image comparison apparatus of Burt into the monitoring system of Kuwano et al. (or vice versa). Such an incorporation would advantageously provide an *automatic* means for authenticating a detected subject's identity by automatically comparing the acquired series of images of a detected subject to registered images.

The following is in regard to Claim 18. As discussed previously, with regard to item (17.c.) and Claim 1, the image comparison apparatus of Burt can be integrated into the monitoring system of Kuwano et al., or vice versa. The result is an image comparison apparatus that conforms to that of Claim 17. Furthermore, as the image comparison apparatus of Burt provides a means for capturing at least one photographic image created by a camera (e.g. imager means 100 shown in Burt Fig. 1) and a means (e.g. *object recognition means 114* of Burt Fig. 1

or *correlation means 402* of Fig. 4) for comparing the at least one photographic image with photographic images previously stored (i.e. templates – Burt column 6, lines 1-19). See, for example, Burt column 9, lines 23-27.

The following is in regard to Claim 19. As shown above the teachings of Burt and Kuwano et al. can be combined so as to yield an image comparison apparatus that satisfies the limitations of Claim 17. It is well known to illuminate a subject (e.g. with a flash) while it is being photographed. Burt, for example, includes a means for illuminating objects within the imager's field-of-view with radiation (Burt column 3, lines 64-65). Clearly, the advantage of providing such an illumination device is that it would illuminate the subject with an amount of light sufficient to ensure a proper image is captured.

The following is in regard to Claim 20-21. As shown above the teachings of Burt and Kuwano et al. can be combined so as to yield an image comparison apparatus that satisfies the limitations of Claim 17. The image comparison apparatus of Burt (e.g. Burt Fig. 1) additionally includes a display monitor (i.e. *display monitor 122* of Burt Fig. 1). As indicated by Burt (Burt column 5, lines 14-18), the display monitor may be used for displaying results of whether a match exists (i.e. a "check result display"). Clearly, the display monitor would also be capable of displaying a number of times a check operation has been conducted (i.e. acting as a "check count display"). Therefore, the display monitor of Burt satisfies the substantive limitations of Claims 20-21.

18. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt and Kuwano et al., in further view of Coffin et al. (U.S. Patent 5,991,429).

The following is in regard to Claim 22. As shown above the teachings of Burt and Kuwano et al. can be combined so as to yield an image comparison apparatus that satisfies the limitations of Claim 17. However, neither Burt nor Kuwano et al. expressly show or suggest that such an apparatus should include a personal identification keypad for receiving a personal identification code input to be compared with a previously stored personal identification code.

Coffin et al. disclose a security access and identification system that employs facial recognition. In the system of Coffin et al. each *enrolled* individual (i.e. an individual having personal information and facial images attributed to them and stored in a database – see, for example, paragraph 1 of Coffin et al.’s *Summary of Invention*) has a personal identification number (PIN) assigned to them (Coffin et al. column 1, lines 40-41). Accordingly, a person who desires clearance is prompted to enter their assigned PIN (Coffin et al. column 7, lines 50-51). The PIN is subsequently compared with stored PINs (Coffin et al. column 7, lines 40-44). Clearly, this necessitates some means (e.g. a keypad or keyboard) for entering that assigned PIN. Therefore, a “personal identification keypad” is an inherent feature of the system of Coffin et al.

The systems and apparatus of Coffin et al., Burt and Kuwano et al. are clearly functionally and structurally similar. Therefore, given the teachings of Coffin et al., it would have been obvious to one of ordinary skill in the art, at the time of the Applicant's claimed invention, to augment an image comparison apparatus (e.g. the image comparison apparatus obtained by combining the teachings of Burt and Kuwano et al. as discussed above) with a personal identification keypad for receiving a personal identification code input to be compared with a previously stored personal identification code. Besides providing an additional layer of

security, such a modification would facilitate an efficient search of the stored user/subject information. The latter is a result of searching the database initially by PIN, as opposed to a more computationally burdensome search by image.

The following is in regard to Claim 23. As shown above the teachings of Burt and Kuwano et al. can be combined so as to yield an image comparison apparatus that satisfies the limitations of Claim 17. However, neither Burt nor Kuwano et al. expressly show or suggest that such an apparatus should include a card-reader for reading a personal code stored on a card and comparing that code with previously stores personal codes.

As discussed previously with respect to Claim 22, Coffin et al. demonstrate the application of PIN-authentication, in conjunction with facial image recognition, within the context of a security access and identification system. It was well known, at the time of the Applicant's claimed invention, that such PINs could be stored on cards such as so-called "swipe-cards", credit cards, or ATM cards. These devices generally require a card-reader for accessing the codes stored thereon. Official Notice is taken. With regard to Coffin et al.'s teachings, such card/card-reader configurations merely provide another means for the user to enter a PIN. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the Applicant's claimed invention, to configure the aforementioned image comparison apparatus to allow or require a user to enter an assigned PIN, via a card containing the PIN, in addition to authenticating his/her facial image. The motivations for using PINs, in accordance with the teachings of Coffin et al., were discussed above. The motivation to use a card/card-reader configuration, as opposed to other means for accepting PINs, would have been to obviate the need for a user to remember his/her PIN or to manually enter it.

Allowable Subject Matter

19. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
20. The following is a statement of reasons for the indication of allowable subject matter: Neither Seeley, Burt, nor any of the cited references discloses or suggests acquiring a plurality of acquired images “prior to the pressing of a check start button,” and then “acquiring at least one acquired image … after the pressing of said check start button.” Nor do they disclose comparing at least one of the images acquired after the pressing of the check start button with at least one registration image to determine if there is a match, as claimed, and then comparing at least one registration image to at least one image acquired before the pressing of the check start button when there is no match, as claimed.
21. Claims 24-27 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The limitations of claim 24 substantially correspond to the allowable features of claim 1, as explained in paragraph 20 above. Claim 24 would be allowable for the same reason.
22. Claim 17 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, and if amended in accordance with the indicated allowable features of claims 1 and 24, as recited above.

Conclusion

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (571) 272-7423.

Please note that this application has been reassigned to Colin LaRose. If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Jingge Wu, can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CML
Group Art Unit 2623
5 September 2005



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PRIMARY EXAMINER